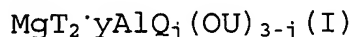


ATTACHMENT A

Claims 1 - 16: (Cancelled)

17. (New) A supported catalyst system comprising a product obtained by contacting:

- an adduct of formula (I)



wherein

Mg is magnesium; Al is aluminum; O is oxygen;

T is chlorine, bromine, or iodine;

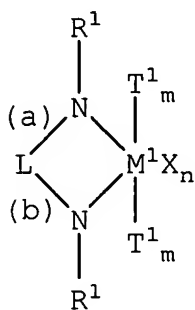
U is a linear or branched C₁-C₁₀ alkyl radical;

y ranges from 6.00 to 0.05;

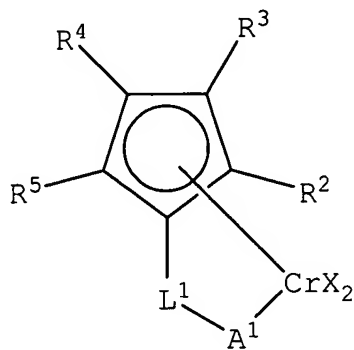
j is a non-integer number ranging from 3 to 0.1;

Q, same or different, is a hydrocarbon radical comprising from 1 to 20 carbon atoms, optionally comprising at least one silicon or germanium atom; with

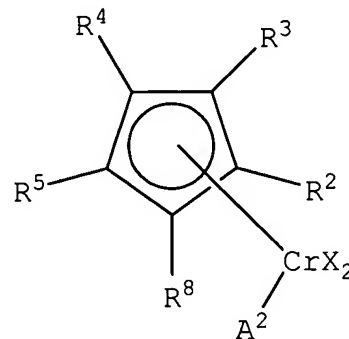
- at least one compound of formula (II), (III) or (IV)



(II)



(III)



(IV)

wherein

M^1 is a transition metal atom selected from Groups 3-11 of the Periodical Table of Elements, including lanthanoids;

X, same or different, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, R, OR, OCOR, SR, NR₂ and PR₂, wherein R is a hydrocarbon radical comprising from 1 to 20 carbon atoms optionally comprising at least one Si or Ge atom;

n ranges from 0 to 3;

R¹, same or different, are C₁-C₄₀ hydrocarbon radicals optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

L is a divalent or trivalent bridge connecting the two nitrogen atoms;

m ranges from 0 to 1, with the proviso that when m is 0, T¹ is not-existent;

T¹ is a Lewis base, T¹ can optionally be bonded to R¹;

bonds (a) and (b) connecting the two nitrogen atoms with L, same or different, can be a single bond or double bond;

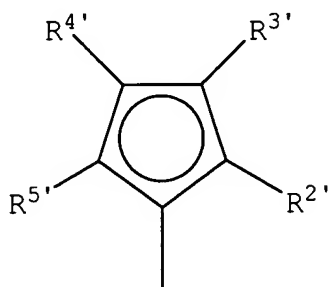
Cr is a chromium atom;

R², R³, R⁴ and R⁵, same or different, are hydrogen, halogen, or C₁-C₄₀ hydrocarbon radicals optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements; or two adjacent R², R³, R⁴ and R⁵ form at least one C₃-C₇ membered ring optional comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

L¹ is a divalent or trivalent bridging group selected from a C₁-C₂₀ alkylidene, a C₃-C₂₀ cycloalkylidene, a C₆-C₂₀ arylidene, a C₇-C₂₀ alkylarylidene, or a C₇-C₂₀ arylalkylidene radical optionally comprising at least one heteroatom belonging

to groups 13-17 of the Periodic Table of Elements, or a silylidene radical comprising up to 5 silicon atoms;

A¹ is a moiety of formula (V)



(V)

wherein R^{2'}, R^{3'}, R^{4'} and R^{5'} are hydrogen, halogen, or C₁-C₄₀ hydrocarbon radicals optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements; or two adjacent R^{2'}, R^{3'}, R^{4'} and R^{5'} form at least one C₃-C₇ membered ring optional comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements; or A¹ is oxygen, sulphur, NR⁷, NR⁷₂, OR⁷ or SR⁷, wherein R⁷ is a C₁-C₄₀ hydrocarbon radical;

R⁸ is hydrogen, halogen, or a C₁-C₄₀ hydrocarbon radical optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements;

A² is a halogen, R^{7'}, OR^{7'}, OCOR^{7'}, SR^{7'}, NR^{7'}₂, NR^{7'}₃, SR^{7'}₂, OR^{7'}₂, wherein R^{7'} is a C₁-C₄₀ hydrocarbon radical.

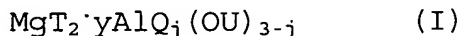
18. (New) The supported catalyst system according to claim 17, wherein L¹ is SiMe₂ or SiPh₂.

19. (New) The catalyst system according to claim 17, wherein T is chlorine; U is a linear C₁-C₁₀ alkyl radical; y ranges from 2 to 0.1; j ranges from 3 to 0.5; and Q is a linear or branched, cyclic or acyclic, C₁-C₂₀-alkyl, C₂-C₂₀ alkenyl, C₂-C₂₀ alkynyl, C₆-C₂₀-aryl, C₇-C₂₀-alkylaryl or C₇-C₂₀-arylalkyl radical optionally comprising at least one silicon or germanium atom.

20. (New) The catalyst system according to claim 17, wherein M¹ is a transition metal atom selected from Groups 3-6 and 8-10; X is a halogen or R; and L is a divalent or trivalent C₁-C₄₀ hydrocarbon group optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements.

21. (New) The catalyst system according to claim 17, wherein L¹ is a divalent group of formula (ZR⁶_{m1})_{n1}, wherein Z is C, Si, Ge, N or P; R⁶, same or different, is hydrogen or a hydrocarbon comprising from 1 to 20 carbon atoms, or two R⁶ can form an aliphatic or aromatic C₄-C₇ ring; m1 is 1 or 2, with the proviso that m1 is 1 when Z is N or P, and m1 is 2 when Z is C, Si or Ge; n1 is an integer ranging from 1 to 4; A¹ is NR⁷₂; and R⁷ is a C₁-C₂₀-alkyl radical.

22. (New) The catalyst system according to claim 17, wherein the adduct of formula (I)



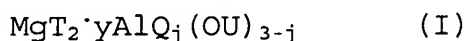
comprises a surface area (BET) higher than 30 m²/g.

23. (New) A catalyst system obtained by a process comprising the following steps:

- contacting

- (i) a partially dealcoholated adduct of formula $\text{MgT}'_2\text{wUOH}$, wherein T' is chlorine, bromine, or iodine; U is a linear or branched $\text{C}_1\text{-C}_{10}$ alkyl radical; and w ranges from 6 to 0.1; with
- (ii) an organo-aluminium compound of formula $\text{H}_e\text{AlQ}^1_{3-e}$ or $\text{H}_e\text{Al}_2\text{Q}^1_{6-e}$, wherein Q^1 , same or different, is hydrogen, halogen, or a hydrocarbon radical comprising from 1 to 20 carbon atoms optionally comprising at least one silicon or germanium atom; with the proviso that at least one Q^1 is different from halogen; and e is a non-integer number ranging from 0 to 1;

to obtain an adduct of formula (I)



wherein

Mg is magnesium; Al is aluminum; O is oxygen;

T is chlorine, bromine, or iodine;

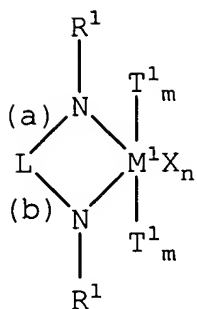
U is a linear or branched $\text{C}_1\text{-C}_{10}$ alkyl radical;

y ranges from 6.00 to 0.05;

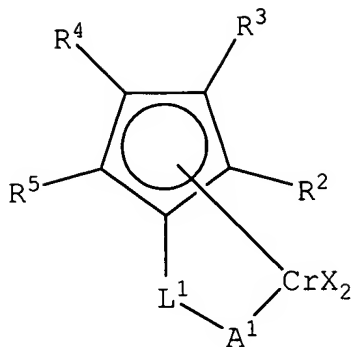
j is a non-integer number ranging from 3 to 0.1;

Q , same or different, is a hydrocarbon radical comprising from 1 to 20 carbon atoms, optionally comprising at least one silicon or germanium atom;

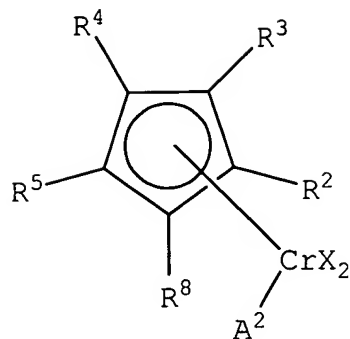
- contacting a product obtained from contacting (i) and (ii) with at least one compound of formula (II), (III) and (IV)



(II)



(III)



(IV)

wherein

M^1 is a transition metal atom selected from Groups 3-11 of the Periodical Table of Elements, including lanthanoids;

X, same or different, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, R, OR, OCOR, SR, NR_2 and PR_2 , wherein R is a hydrocarbon radical comprising from 1 to 20 carbon atoms optionally comprising at least one Si or Ge atom;

n ranges from 0 to 3;

R^1 , same or different, are C_1 - C_{40} hydrocarbon radicals optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

L is a divalent or trivalent bridge connecting the two nitrogen atoms;

m ranges from 0 to 1, with the proviso that when m is 0, T^1 is not-existent;

T^1 is a Lewis base, T^1 can optionally be bonded to R^1 ;

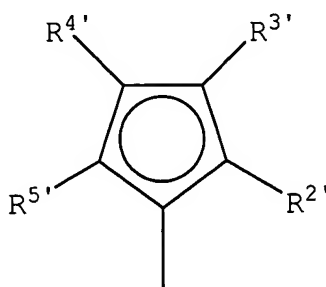
bonds (a) and (b) connecting the two nitrogen atoms with L, same or different, can be a single bond or double bond;

Cr is a chromium atom;

R^2 , R^3 , R^4 and R^5 , same or different, are hydrogen, halogen, or C_1 - C_{40} hydrocarbon radicals optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements; or two adjacent R^2 , R^3 , R^4 and R^5 form at least one C_3 - C_7 membered ring optional comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

L^1 is a divalent or trivalent bridging group selected from a C_1 - C_{20} alkylidene, a C_3 - C_{20} cycloalkylidene, a C_6 - C_{20} arylidene, a C_7 - C_{20} alkylarylidene, or a C_7 - C_{20} arylalkylidene radical optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements, or a silylidene radical comprising up to 5 silicon atoms;

A^1 is a moiety of formula (V)



(V)

wherein R^2' , R^3' , R^4' and R^5' are hydrogen, halogen, or C_1 - C_{40} hydrocarbon radicals optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements; or two adjacent R^2' , R^3' , R^4' and R^5' form at least one C_3 - C_7 membered ring optional

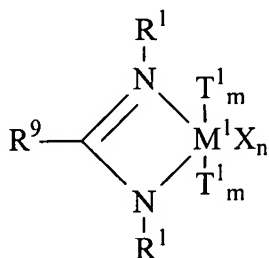
comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements; or A^1 is oxygen, sulphur, NR^7 , NR^7_2 , OR^7 or SR^7 , wherein R^7 is a C_1 - C_{40} hydrocarbon radical;

R^8 is hydrogen, halogen, or a C_1 - C_{40} hydrocarbon radical optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements;

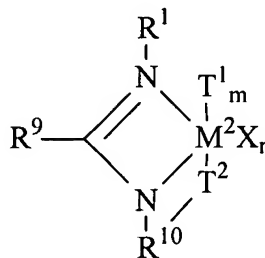
A^2 is a halogen, $R^{7'}$, $OR^{7'}$, $OCOR^{7'}$, $SR^{7'}$, $NR^{7'}_2$, $NR^{7'}_3$, $SR^{7'}_2$, $OR^{7'}_2$, wherein $R^{7'}$ is a C_1 - C_{40} hydrocarbon radical.

24. (New) The catalyst system according to claim 17, wherein generally between 1000 $\mu\text{mol/g}$ to 1 $\mu\text{mol/g}$ of at least one compound of formula (II), (III) or (IV) is supported on the adduct of formula (I).

25. (New) The catalyst system according to claim 17, wherein the compound of formula (II) comprises formula (IIa) or (IIb):



(IIa)



(IIb)

wherein

R^1 , same or different, are C_1 - C_{40} hydrocarbon radicals optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

T^1 is a Lewis base, T^1 can optionally be bonded to R^1 ;

M^1 is a transition metal atom selected from Groups 3-11 of the Periodical Table of Elements, including lanthanoids;

X, same or different, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, R, OR, OCOR, SR, NR_2 and PR_2 , wherein R is a hydrocarbon radical comprising from 1 to 20 carbon atoms optionally comprising at least one Si or Ge atom;

n ranges from 0 to 3;

m ranges from 0 to 1, with the proviso that when m is 0, T^1 is not-existent;

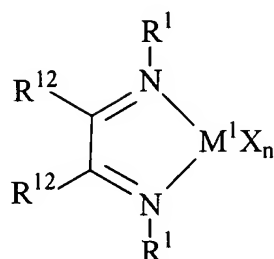
R^9 is hydrogen or a linear or branched, cyclic or acyclic, C_1 - C_{20} -alkyl, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_6 - C_{20} -aryl, C_7 - C_{20} -alkylaryl or C_7 - C_{20} -arylalkyl radical optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

R^{10} is a divalent group selected from a C_1 - C_{20} alkylidene, a C_3 - C_{20} cycloalkylidene, a C_6 - C_{20} arylidene, a C_7 - C_{20} alkylarylidene, or a C_7 - C_{20} arylalkylidene radical optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements, and a silylidene radical comprising up to 5 silicon atoms;

T^2 is OR^{11} , SR^{11} or NR^{11}_2 , wherein R^{11} is a linear or branched, cyclic or acyclic, C_1 - C_{10} -alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} -aryl, C_7 - C_{10} -alkylaryl or C_7 - C_{10} -arylalkyl radical.

26. (New) The catalyst system according to claim 25, wherein T^1 is tetrahydrofuran or a tertiary amine; M^1 is titanium or vanadium; n is 2; and m is 1.

27. (New) The catalyst system according to claim 17, wherein the compound of formula (II) comprises formula (IIc):



(IIc)

wherein

R^1 , same or different, are $\text{C}_1\text{-C}_{40}$ hydrocarbon radicals optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

T^1 is a Lewis base, T^1 can optionally be bonded to R^1 ;

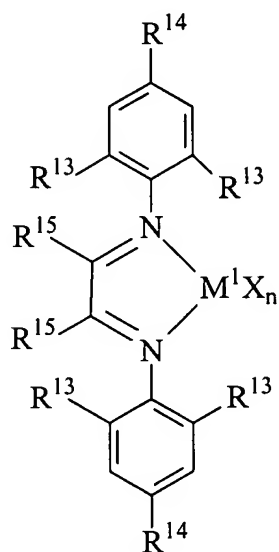
M^1 is a transition metal atom selected from Groups 3-11 of the Periodical Table of Elements, including lanthanoids;

X , same or different, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, R , OR , OCOR , SR , NR_2 and PR_2 , wherein R is a hydrocarbon radical comprising from 1 to 20 carbon atoms optionally comprising at least one Si or Ge atom;

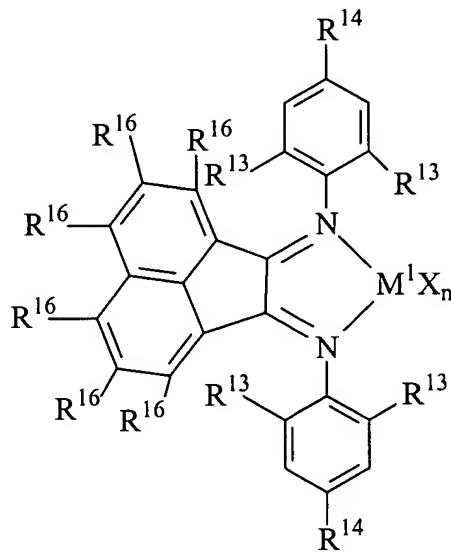
n ranges from 0 to 3;

R^{12} , same or different, is hydrogen or a linear or branched, cyclic or acyclic, $\text{C}_1\text{-C}_{20}$ -alkyl, $\text{C}_2\text{-C}_{20}$ alkenyl, $\text{C}_2\text{-C}_{20}$ alkynyl, $\text{C}_6\text{-C}_{20}$ -aryl, $\text{C}_7\text{-C}_{20}$ -alkylaryl or $\text{C}_7\text{-C}_{20}$ -arylalkyl radical optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements; and two R^{12} groups can optionally join to form a $\text{C}_3\text{-C}_8$ membered ring optionally comprising at least one $\text{C}_1\text{-C}_{15}$ -alkyl, $\text{C}_2\text{-C}_{15}$ alkenyl, $\text{C}_2\text{-C}_{15}$ alkynyl, $\text{C}_6\text{-C}_{15}$ -aryl, $\text{C}_7\text{-C}_{15}$ -alkylaryl or $\text{C}_7\text{-C}_{15}$ -arylalkyl substituent.

28. (New) The catalyst system according to claim 27, wherein the compound of formula (IIc) comprises formula (IIca) or (IIcb):



(IIIca)



(IIIcb)

wherein

R^{13} , same or different, is hydrogen or a linear or branched, cyclic or acyclic, C_1 - C_{10} -alkyl radical;

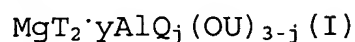
R^{14} , same or different, is hydrogen or a linear or branched, cyclic or acyclic, C_1 - C_{10} -alkyl radical;

R^{15} , same or different, is hydrogen or a linear or branched, cyclic or acyclic, C_1 - C_{20} -alkyl, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_6 - C_{20} -aryl, C_7 - C_{20} -alkylaryl or C_7 - C_{20} -arylalkyl radical optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

R^{16} , same or different, is hydrogen or a C_1 - C_{15} -alkyl, C_2 - C_{15} alkenyl, C_2 - C_{15} alkynyl, C_6 - C_{15} -aryl, C_7 - C_{15} -alkylaryl or C_7 - C_{15} -arylalkyl radical.

29. (New) A process for (co)polymerizing olefins comprising from 2 to 20 carbon atoms comprising contacting one or more of the olefins under polymerization conditions in presence of a supported catalyst system comprising a product obtained by contacting:

- an adduct of formula (I)



wherein

Mg is magnesium; Al is aluminum; O is oxygen;

T is chlorine, bromine, or iodine;

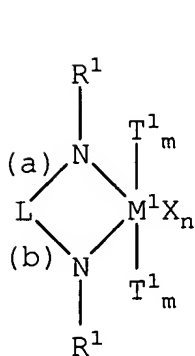
U is a linear or branched C₁-C₁₀ alkyl radical;

y ranges from 6.00 to 0.05;

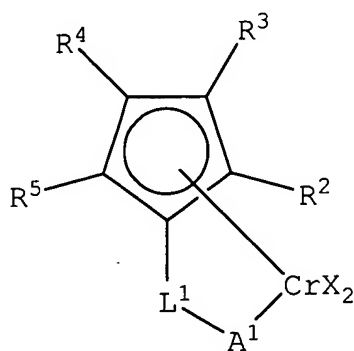
j is a non-integer number ranging from 3 to 0.1;

Q, same or different, is a hydrocarbon radical comprising from 1 to 20 carbon atoms, optionally comprising at least one silicon or germanium atom; with

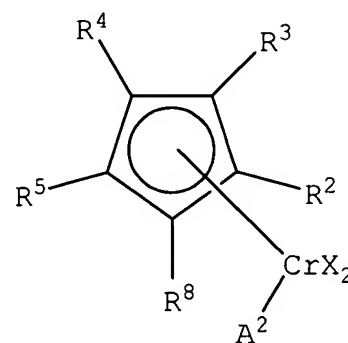
- at least one compound of formula (II), (III) or (IV)



(II)



(III)



(IV)

wherein

M¹ is a transition metal atom selected from Groups 3-11 of the Periodical Table of Elements, including lanthanoids;

X, same or different, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, R, OR, OCOR, SR, NR₂ and PR₂, wherein R is a hydrocarbon radical comprising from 1 to 20 carbon atoms optionally comprising at least one Si or Ge atom;

n ranges from 0 to 3;

R¹, same or different, are C₁-C₄₀ hydrocarbon radicals optionally comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

L is a divalent or trivalent bridge connecting the two nitrogen atoms;

m ranges from 0 to 1, with the proviso that when m is 0, T¹ is not-existent;

T¹ is a Lewis base, T¹ can optionally be bonded to R¹;

bonds (a) and (b) connecting the two nitrogen atoms with L, same or different, can be a single bond or double bond;

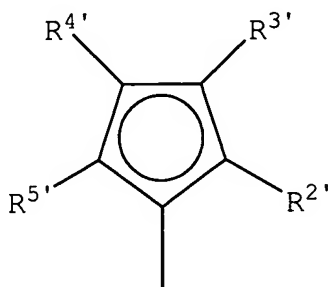
Cr is a chromium atom;

R², R³, R⁴ and R⁵, same or different, are hydrogen, halogen, or C₁-C₄₀ hydrocarbon radicals optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements; or two adjacent R², R³, R⁴ and R⁵ form at least one C₃-C₇ membered ring optional comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements;

L¹ is a divalent or trivalent bridging group selected from a C₁-C₂₀ alkylidene, a C₃-C₂₀ cycloalkylidene, a C₆-C₂₀ arylidene, a C₇-C₂₀ alkylarylidene, or a C₇-C₂₀ arylalkylidene radical optionally comprising at least one heteroatom belonging

to groups 13-17 of the Periodic Table of Elements, or a silylidene radical comprising up to 5 silicon atoms;

A¹ is a moiety of formula (V)



(V)

wherein R^{2'}, R^{3'}, R^{4'} and R^{5'} are hydrogen, halogen, or C₁-C₄₀ hydrocarbon radicals optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements; or two adjacent R^{2'}, R^{3'}, R^{4'} and R^{5'} form at least one C₃-C₇ membered ring optional comprising at least one heteroatom belonging to groups 13-17 of the Periodic Table of Elements; or A¹ is oxygen, sulphur, NR⁷, NR⁷₂, OR⁷ or SR⁷, wherein R⁷ is a C₁-C₄₀ hydrocarbon radical;

R⁸ is hydrogen, halogen, or a C₁-C₄₀ hydrocarbon radical optionally comprising one or more heteroatoms belonging to groups 13-17 of the Periodic Table of Elements;

A² is a halogen, R^{7'}, OR^{7'}, OCOR^{7'}, SR^{7'}, NR^{7'}₂, NR^{7'}₃, SR^{7'}₂, OR^{7'}₂, wherein R^{7'} is a C₁-C₄₀ hydrocarbon radical.

30. (New) The process according to claim 29, wherein at least one alpha-olefin is (co)polymerized.

31. (New) The process according to claim 29, wherein the alpha-olefin is selected from propylene, ethylene, 1-butene, 1-hexene, 1-octene, and mixtures thereof.

32. (New) The process according to claim 29, wherein the alpha-olefin is at least ethylene.

33. (New) The process according to claim 32, wherein an ethylene polymer is produced and comprises a molecular weight (Mw) higher than 500,000.